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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/634,999 | 08/06/2003 | Young-Saeng Kim | 1594.1261 | 7497 |

21171 7590 03/27/2007
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| EXAMINER |
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MAYEKAR, KISHOR

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| ART UNIT | PAPER NUMBER |
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1753

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 03/27/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|--------------------------------------|-----------------------------------|--|
| Office Action Summary | Application No. 10/634,999 | Applicant(s) KIM ET AL. | |
| | Examiner Kishor Mayekar | Art Unit 1753 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 14-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of invention of Group I, claims 1-13 in the reply filed on 17 January 007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

However, the response fails to clearly identify which species of claims 10-13 of the elected group for the examination. Subsequently to a telephone call to Attorney Darleen Stockley on 22 March 2007, species of claim 10 has been selected for the examination. And during the examination and due to the rejections of claims over US 7,074,260 B2, claims 10-13 are all examined (emphasis added).

Claim Objections

2. Claim 1 is objected to because of the following informalities: the typo error in the recitation "a dust collecting pat" (emphasis added). Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any

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person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-13 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an air purifier with a functional filter comprising a specific material confined in micropores of carbon nanotubes, does not reasonably provide enablement for an air purifier with any other functional filter. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. The above claims recite that an air purifier comprising a functional filter to enhance a purification function to predetermined contaminants in the air. Because of the breadth of the claims, the above claimed subject matter can be interpreted as that the recited functional air includes filter with a combination of photocatalyst titanium oxide and catalyst silver to enhance a purification function to predetermined contaminants in air, for example. And the specification does not enabling such an interpretation.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not

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identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1 and 10-13 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 6 of U.S. Patent No. 7,074,260 B2 in view of Applicant's admission and JP 2001-079444 A (provided with a machine translation). Claim 16 recites an air cleaner with a filter comprising a carbon nanotube with nanosized metal particles of at least one type of metal deposited into the carbon nanotubes, wherein the nanosized metal particles are titanium dioxide, silver or nickel for removing odor, sterilizing or volatile organic compounds from air. The difference between the patent claim and the above claims is the provision of the recited main body, dust collecting part and deodorizing filter. However, Applicant admits in the section "Background of the Invention" on page 1 of the specification that an air purifier comprises a prefilter, an electrostatic filter and a final filter. JP '444 shows that an air cleaner comprising an

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electrostatic filter, a HEPA filter and a deodorizing filter in a main body (see abstract; and Figs. 1 and 6). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the patent claim as shown by Applicant admission and JP '444 because this would provide an air cleaner capable of adsorbing and deodorizing odor from air in addition to air ionizing to remove dust particles.

7. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over claim 6 of '260 in view of Applicant's admission and JP '444 as applied to claims 1 and 10-13 above, and further in view of High (US 5,904,896). The difference between the patent claim as modified by Applicant's admission and JP '444 and the instant claims is the recited port and washable material. High shows the limitations in an air cleaner (Figs. 2-4; col. 7, lines 40-50; and col. 5, lines 7-27). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the patent claim as modified by Applicant admission and JP '444 and as shown by High because the provision of the port would ease the replacing of the filter when using a reusable filter.

8. Claims 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over claim 6 of '260 in view of Applicant's admission and JP '444 as applied to claims 1 and 10-13 above,

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and further in view of claims 1, 20 and 21 of U.S. Patent No. 7,029,520 B2. The difference between patent claim as modified by Applicant's admission and JP '444 and the instant claims is the recited dust collecting part. The patent claims of '750 shows the limitations where the meaning of a term in the patent claim of '750 is learned from the disclosure of the patent, *In re Boylan* 157 USPQ 370. The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the patent claim as modified by Applicant admission and JP '444 and as claimed in the patent claims of '520 because the selection of any of known equivalent dust collecting part would be within the level of ordinary skill in the art.

Conclusion

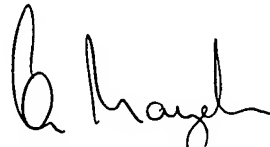
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kishor Mayekar whose telephone number is (571) 272-1339. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information

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for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'K Mayekar', is positioned above the printed name.

Kishor Mayekar
Primary Examiner
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